



August 21, 2018

Robert Weber  
Coastal Program Manager  
Town of Palm Beach, Engineering Division  
Public Works Department  
951 Old Okeechobee Road, Suite A  
West Palm Beach, FL 33401

**RE: Lake Worth Lagoon Waterway Access Maintenance Dredging  
Justification for Change Order #3 for Coston Marine Services, Inc.  
Dredging of Rock in North Waterway Segment**

Dear Mr. Weber:

This letter is provided as justification for Change Order #3 associated with the above referenced project. These correspondence addresses one additive line item associated with the dredging of additional rock in the North Waterway Segment from Station 66+40 to 68+20 by Coston Marine Services, Inc. (Coston) and additional time for ATM to oversee and administer this additional work.

**North Waterway Rock Excavation**

Additional Scope and Budget was applied to the base contract to account for the presence of rock in the North Waterway Segment. As this area was added on an expedited basis, no geotechnical field studies were undertaken in support of the design, permitting or contract execution of this extended excavation area and the effort proceeded based on the assumption that the material that would be encountered could be excavated mechanically under the effort proposed by Coston under Change Order #2. Following execution of Change Order #2 and the advancement of excavation within this area, the rate of rock extraction by Coston was significantly less than anticipated in the development of Work Order #2 and additional rock remains within the design cross-section. The resistance of this rock to excavation represents a changed field condition in regard to the original base contract assumptions and Change Orders to date. Based on consultation by the Engineer and Town staff with representatives of Palm Beach Intracoastal Neighbors (PBIN) it was concluded that excavation of this area remained desirable and would require additional effort.

Based on this direction and given the need for this work to be completed expeditiously, a cost proposal for this additional effort was requested from Coston Marine Services, Inc. (the dredge contractor). This proposal is included as an attachment to this correspondence in addition to a detailed cost estimate for this effort which includes the Coston Change Order proposal and additional budget for ATM to oversee and administer this additional work.



While the Coston proposal includes a significant increase in the proposed unit rate for excavation (\$100 per cubic yard), this rate is well within the range of costs observed for the excavation of rock of similar consistency.

Coston proposes to conduct this effort for an additional cost of \$85,000. Budget to cover ATM's oversight and administration of this effort has been estimated at an additional \$7,672. In total this represents an additive change of \$92,672. Given that this volume was assumed within the original contract at the sand unit rate of \$17.17 a deductive change to the budget at this rate has been applied in the amount of \$14,594.50 (850 cubic yards at \$17.17). **This results in a net additive change order in the net amount of \$70,405.50.**

### **Extension of Time**

The increase in volume associated with Change Order #3 requires additional time beyond the contract time provisions within the base contract. The Coston Change Order proposes 40 days to complete this additional project segment.

In total the following modified Schedule is proposed based on the date of project initiation, the base contract and Change Orders to date:

- Construction was initiated on February 9, 2018.
- The base contract time for project completion was defined as 210 days through Addendum #1 to the Bid Specification.
- Change Order #1 included excavation of an additional 7,000 cubic yards of material but did not include a specific time extension to account for this additional work. Based on an assumed production rate of 250 cy/day this equates to an additional time requirement of 28 days.
- Change Order #2 did not define a specific timeframe, but the work associated with this Change Order has been conducted and required a total of 42 days.
- This Change Order (#3) provides for an additional 40 days to complete the work specified herein.
- Delays beyond the Contractor's control associated with the Southern Bridge construction have occurred. These have been estimated as an additional 5 days.
- In total accounting for the above results in a total time for project completion of 325 days.
- **Based on the date of construction initiation and the above results in a date for project completion on or around December 31, 2018.**



### **Recommendation**

Based on the assumption that completion of the North Segment design template remains a priority, the Engineer of Record recommends that an additive change order as defined above should be applied to the project budget to address this additional effort.

This results in an increase to the project budget of **\$70,405.50** (inclusive of the one additive and one deductive change order).

Should you have any questions regarding this Change Order, please feel free to contact me at your convenience.

Sincerely,

***Applied Technology & Management, Inc.***

A handwritten signature in dark ink, appearing to read 'Michael G. Jenkins', with a stylized flourish at the end.

Michael G. Jenkins, Ph.D., P.E.  
Coastal Engineering Principal

